B.C. Aerospace Strategy

New Opportunities Across British Columbia

BRITISH COLUMBIA

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British Columbia Aerospace Strategy

I. Vision

To support a growing provincial, national and international aerospace industry in British Columbia through a network delivering world-class education and training, including innovation and technology transfer.

II. Purpose/Goal

In support of the growth and diversification of British Columbia's aerospace industry over the next ten years, a provincial strategy will expand and enhance the enrolment and graduation of an appropriately trained workforce based on the principles below.

While the aerospace industry includes a full range of sectors including flight training and airport operations, this provincial strategy focuses on the sub-sectors of maintenance and manufacturing, where the potential skills shortage has been identified as severe.

III. Principles

- A network of aerospace maintenance and manufacturing training programs is needed across British Columbia to ensure access in a cost-effective manner to meet the needs of students and industry.
- This provincial network of institutions will deliver a range of aerospace training appropriate to each region in response to direct industry needs and forecasts, while avoiding costly program duplication.
- Aerospace training involves considerable equipment and facility costs, as well as resources for institutional and program accreditation from Transport Canada (TC) and the Canadian Aviation Maintenance Council (CAMC), especially to establish new programs. While high enrolments may provide an effective approach to practical economies of scale in regions of high demand, it is anticipated that development of partnerships within the network will provide effective alternatives for the regions of the province.
- All institutions in the provincial network will engage in partnerships that are cost-effective for the institutions, students, industry and taxpayers.
- Institutions in the network are making aerospace programming a priority and are willing to access funding from within core budgets when there is evidence of industry skills needs.
- Institutions can only address industry skills needs when industry is willing to become full partners in this provincial approach to the provision of training programs. Industry contributions may be in the form of direct cash infusions, equipment or other in-kind donations, co-operative education and apprenticeship work placements, etc.

IV. The Aerospace Industry in British Columbia

The aerospace maintenance and manufacturing industry in British Columbia includes parts manufacturing and maintenance, repair and overhaul (MRO). These sub-sectors are the focus of this provincial training strategy.

Current Activity Levels

Over the five-year period from 1996 to 2001, industry revenues have more than doubled, increasing from $0.26 billion in 1996 to $0.60 billion in 2001. During this same period, employment in the British Columbia aerospace industry has increased by 150 percent from 1,800 in 1996 to 4,500 in 2001.

The distribution of employment for the MRO and manufacturing sub-sectors (based on 2001 figures) is:

- 75 percent in the Lower Mainland and Fraser Valley
- 10 percent in the Okanagan
- 5 percent on Vancouver Island
- 10 percent in other regions

Labour Market Supply and Demand

Over the past 10 years, despite some fluctuations, the British Columbia industry has experienced overall growth which, in combination with an aging workforce, competition from the military for skilled workers, limited training capacity and the low profile of the industry among youth, has resulted in concerns over skills shortages.

Two recent studies, the British Columbia Aerospace Workforce Development Plan: Summary Report (December 2002) and the A Human Resources Study of the Canadian Aviation Manufacturing and Maintenance Industry (November 2002), raised concerns about potential skills shortages in the maintenance and manufacturing sub-sectors. In addition, Transport Canada funded a study called "Breaking Barriers in Aviation Training: A Feasibility Study for a Northern Aircraft Maintenance Engineer (AME) Training Program – Report and Recommendations" completed in October 2002.

Various aerospace labour market demand and supply projections, including the Canadian Occupational Projection System (COPS): BC Unique Scenarios, February 2003 (based on Statistics Canada data and adjusted for BC factors) and the British Columbia Aerospace Workforce Development Plan: Summary Report (December 2002), indicate that if aerospace programming is not increased, significant labour shortages could occur. However, the appropriate level of program expansion needed to address the projected labour market demand over the short and medium term is still to be determined. The challenge is to balance the number of aerospace program graduates with the employment opportunities/labour demands of the industry in British Columbia.

V. Description of Current Aerospace Programming

A full range of aerospace programming is offered by the public post-secondary system, including aircraft maintenance and manufacturing programs, pilot/flight training programs and airport operations management programs.

Aircraft maintenance and manufacturing programs are currently offered by five institutions:

- British Columbia Institute of Technology (BCIT);
- University College of the Fraser Valley (UCFV);
- Northern Lights College (NLC);
- Camosun College (CAM); and,
- North Island College (NIC).

These programs are distributed throughout four regions of the province as follows:

- 79 percent is offered in Lower Mainland by BCIT and UCFV;
- 12 percent is offered in the Peace River/Northern regions by NLC;
- 6 percent is offered on Vancouver Island by CAM and NIC; and,
- 3 percent is offered in the Okanagan region by BCIT.

The aerospace sector is nationally regulated with licensed-based occupations and training programs. Some training requires mandatory Transport Canada (TC) accreditation. In addition, optional accreditation is available from the Canadian Aviation Maintenance Council (CAMC). The TC-accredited programs are the following three Aircraft Maintenance Engineer (AME) programs: AME-M (Mechanical)- which consists of M1 and M2 designations (light aircraft and transport aircraft respectively), AME-S (Structures) and AME-E (Electrical/Avionics), which are currently offered by BCIT (M, S, E), UCFV (S) and NLC (M).

In order to offer accredited programs, the institutions require TC accreditation as Approved Training Organizations (ATO). At present BCIT, UCFV and NLC are the only public post-secondary institutions that have ATO status in British Columbia.

Lower Mainland

BCIT – Sea Island Campus -- Currently, BCIT offers a wide array of TC and CAMC accredited aerospace programming. All three AME programs, as well as a number of aerospace related programs are delivered at Sea Island.

UCFV – Abbotsford Airport -- UCFV currently delivers a TC-accredited AME-S program in the Cascade/Conair facilities at the Abbotsford Airport. Both UCFV and the program have recently received TC accreditation, prior to the first graduating class.

Peace River/Northern Regions

NLC – Dawson Creek Campus -- NLC offers an AME – M Program at its Dawson Creek Campus. This program originated to serve the northern regions of British Columbia and has expanded to become an important provider on a provincial and national level for AME-M1, M2 and specialty programs.

Vancouver Island Region

CAM – Victoria -- Camosun College offers an Aircraft Structural Technician Program in conjunction with Viking Air Ltd. at the Victoria International Airport.

NIC – Campbell River -- North Island College, at its Campbell River Campus, offers an Aircraft and Transportation Manufacturing Technician Program following TC regulations, but has not yet secured accreditation.

Okanagan Region

BCIT – Kelowna Aerospace Campus -- BCIT also delivers an AME-S program at the Kelowna Airport in conjunction with Kelowna Flightcraft. The program is offered in partnership with Kelowna Flightcraft, School District #23 Central Okanagan (Rutland Senior Secondary School) and the City of Kelowna to provide regional access for adult and high school students.

VI. Immediate Program Expansions

In response to the labour market demands and projected skills shortages of the aerospace industry in British Columbia, a number of public post-secondary institutions have initiated proposals to expand program offerings in the area of aerospace maintenance and manufacturing. Through partnerships and a network of programs, the first phase of expansion may be implemented in an efficient and cost effective manner by building on the established strengths, expertise and infrastructure of the existing TC-accredited institutions.

The immediate program expansions are outlined below:

1. British Columbia Institute of Technology/Sea Island
   Aerospace Technology Campus (BCIT – ATC)

   The BCIT – ATC expansion is to relocate its current Sea Island training operation from leased space to a new facility on Sea Island and to expand its current program offerings by 525 full-time equivalencies (FTEs) to deliver over 1, 000 FTEs at the new Sea Island facility by 2005/06.

   In anticipation of the proposed program and campus expansion, BCIT has expanded its aerospace programming by 215 FTEs over the past several years. The existing facilities, including temporary trailer facilities, are not sufficient to deliver this level of activity on an ongoing basis.

   The provincial government will provide some capital funding towards the new Sea Island facility to accommodate this program expansion as well as approval for BCIT to borrow additional funds that will be financed through net facility revenues. BCIT has confirmed that it will support program growth through internal re-allocations.

   BCIT has negotiated substantial direct support and in-kind contributions from the Vancouver Airport Authority (YVR), developed a number of industry partnerships and received substantial contributions of used aircraft and training equipment required for skills training and Transport Canada accreditation.

2. University College of the Fraser Valley/Abbotsford
   Fraser Valley Aerospace Training Centre (UCFV – FVATC)

   The UCFV/Abbotsford proposal will relocate its aerospace programming to a new Fraser Valley Aerospace Training Centre at the Abbotsford Airport in order to maintain the recently established AME-S (Structures) Program. This co-operative education program delivers 54 student FTEs. Expansion of aerospace programming may be considered at this site in the future.

   The provincial government will provide some capital funding towards this relocation. This proposal includes substantial industry contribution for the new hangar, training equipment, tools and other start-up materials.

3. Okanagan University College/Vernon and Northern Lights College/Dawson Creek
   Aerospace Training Centre (OUC/NLC – Vernon ATC)

   The OUC – Vernon ATC proposal is to establish a new TC-accredited AME – M (Mechanical) program at a new Aerospace Training Centre at the Vernon airport. The AME – M program will be offered in a co-operative education model, beginning with one class in 2003/04 and potentially increasing to up to six classes depending on industry need.

A partnership arrangement between OUC and NLC has been developed whereby NLC will use its TC accreditation as an ATO to assist OUC in setting up and delivering a new TC-accredited program. This partnership will enable joint delivery of an AME-M program as follows:

- OUC – Vernon ATC -- the first 12 months of the program for the core components requiring less expensive equipment (primarily parts); and,
- NLC – Dawson Creek ATC -- the last three months of the program for the advanced components requiring more expensive training equipment, specifically functioning fixed wing and rotary aircraft.

The provincial government will provide some capital funding to facilitate program delivery at these two locations.

VII. Implementation of the British Columbia Aerospace Strategy

1. Establish the British Columbia Aerospace Consortium which will be tasked with the following initial activities:

1. Develop an appropriate strategy to build on the provincial approach and request funding support from the federal government to take aerospace in British Columbia to the national and international level;
2. Refine and complete the needs analysis for aerospace skilled labour requirements and supply capacity over the next 10 years; and,
3. Work with prospective new, expanding and existing industry to meet new and ongoing training requirements, including co-operative education work placements and apprenticeships, through the network of institutions offering aerospace maintenance and manufacturing programming.

2. Structure of the British Columbia Aerospace Consortium

Membership

The membership will include representatives of the public post-secondary institutions offering aerospace maintenance and manufacturing programming as well as representatives of appropriate provincial and national aerospace industry associations (see membership list attached).

Terms of Reference

This Consortium will serve as an advisory body to the Ministry of Advanced Education and the Ministry of Competition, Science and Enterprise on aerospace training issues.

Network

The provincial training network will include:

- BCIT/Sea Island, Aerospace Technology Campus
- UCFV/Abbotsford, Fraser Valley Aerospace Training Centre
- NLC/Dawson Creek, Aerospace Technology Centre
- OUC/Vernon Aerospace Training Centre
- OUC/Kelowna, Aerospace Training and Research Centre (subject to industry need)
- BCIT/Kelowna, Kelowna Aerospace Campus
- Camosun/NIC/Vancouver Island Aerospace Training Partnership at Victoria and Campbell River
- Regional/Mobile Training (subject to industry need)

3. Immediate Deliverables:

1. Establishment of the British Columbia Aerospace Consortium
2. BCIT Sea Island: expansion and relocation
3. UCFV program: establish stable facility at Abbotsford Airport
4. OUC/NLC: new AME – M program offered in Vernon

4. Ongoing Initiatives:

1. The British Columbia Aerospace Consortium commits to work with OUC to meet the training needs of a potential aerospace manufacturer locating in the Okanagan region.
2. The British Columbia Aerospace Consortium commits to work with NIC and Camosun College to maximize the response to industry training needs on Vancouver Island.